

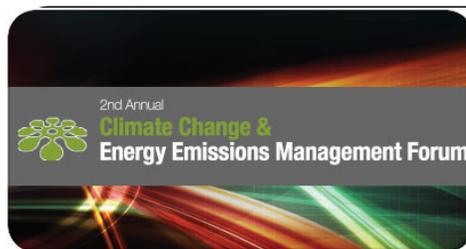


NZ Carbon Exchange

# Emissions trading for New Zealand

## Method in the Madness?

**Murray Dyer, Stuart Frazer, Karen Price**



15<sup>th</sup> August 2007, Wellington



# Presentation Outline

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- Learning by Offsetting - Voluntary Action
- Transition to a Regulated Emissions Trading Scheme
  - **New Zealand “Case Study”**
  - **Impact of ETS Design Parameters on Offsetting**
- EU-ETS Experience
  - Capacity to Trade
  - Linking Issues
- How to Trade



## Who We Are

NZCX is an emissions trading intermediary.

- We broker emission unit trades both domestically and internationally.

*Together with our partner CantorCO2e, we have an international team of carbon market transaction specialists and can offer unparalleled access to buyers and sellers globally.*

# Voluntary Action - Offsetting

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➤ **When to Offset?**

➤ **Benefits of Offsetting**

➤ **Establishing a Carbon Footprint**



# Costs of Offsetting

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- Costs – aren't necessarily just a 'one-off'
- Variable costs year to year need to be considered
- Brand risks of "greenwash" – you might get **less** than you bargained for....

# Types of Offsets

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## Voluntary Emissions Reductions Units (*VERs*)

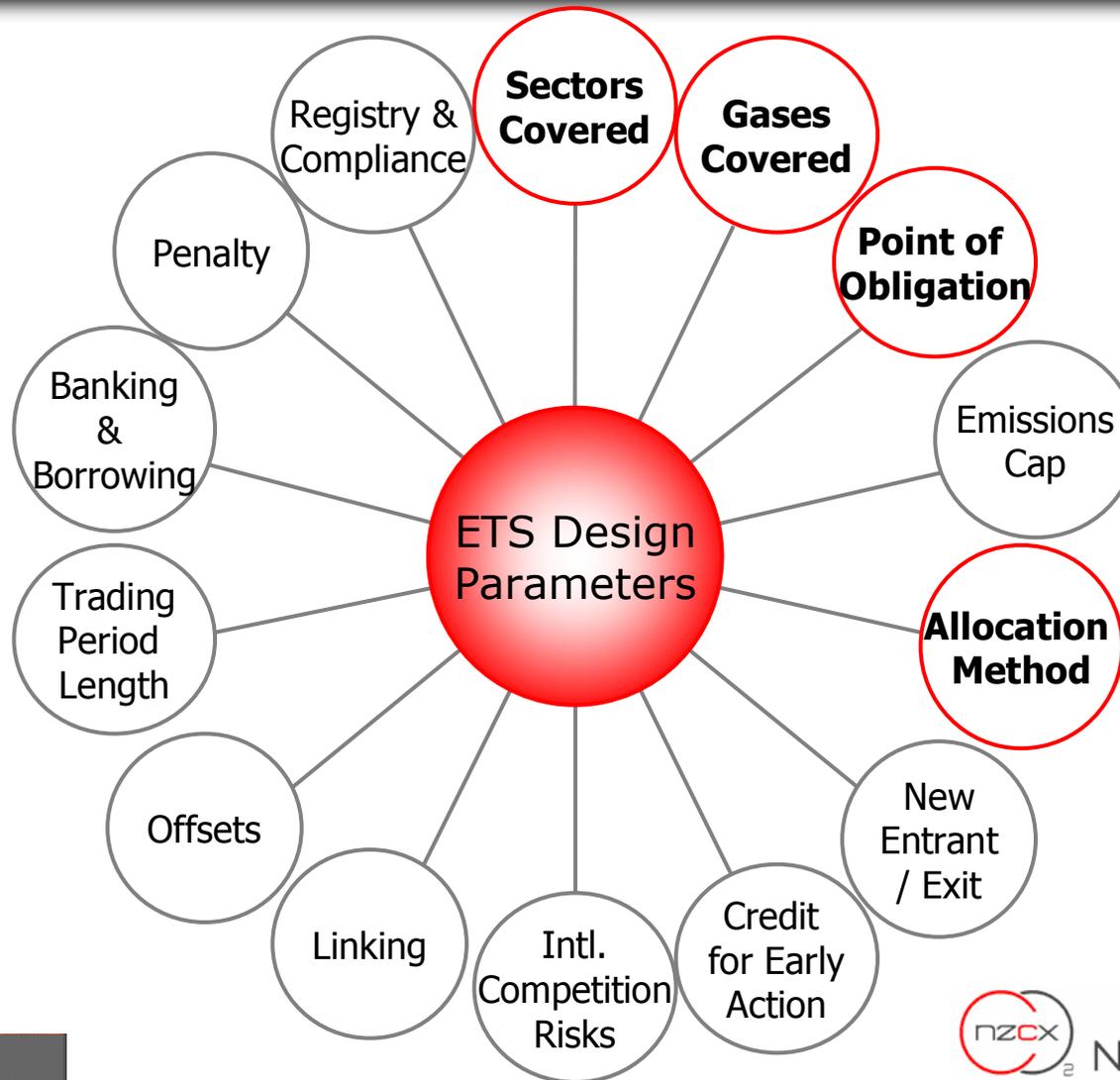
- Unregulated
- Verification Issues
- There are range of standards that have recently emerged

# 'Greenwash' Risks

- Background information and robust verification is required before forestry units are of any quantifiable and tradable value.
- Unverified VERs often lack credibility for European buyers.
- Transitioning from offsetting to an ETS will need careful consideration.
- NZCX often accesses VERs from  climatewarehouse ensuring verification and retirement of units.



# Transition to a Regulated Emissions Trading Scheme



# Case Study: Typical Corporate Emissions Inventory



## Emission Sources

## Covered by NZ - ETS?

➤ Building: Electricity

➤ Yes

➤ Vehicle Fleet: Petrol  
and Diesel



➤ Yes



➤ Domestic Air Travel

➤ Yes

➤ International  
Air Travel



➤ No (outside Kyoto CP1)

# Transition to a Regulated Emissions Trading Scheme

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Under an ETS, a firm undergoing voluntary offsetting will need to consider:

- What emissions are covered by the ETS?
- Is there gratis allocation of credits?
- Are there allowance auctions, and how are the auction payments being applied by the Government?

# Conclusions on Offsetting

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## Transition Issues

- Ensure your ability to transition into any future Domestic Emissions Trading Scheme.
- Longer term, voluntary offsetting depends on specific ETS design.

# EU ETS Experience

## - Lessons for New Zealand

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### ➤ Capacity to Trade

- Informed Market View
- Obligation vs. Financial Opportunity

### ➤ Linking Issues

- EUA vs. CER prices

# EU ETS as a Reference Case

## Carbon Market Volumes and Values

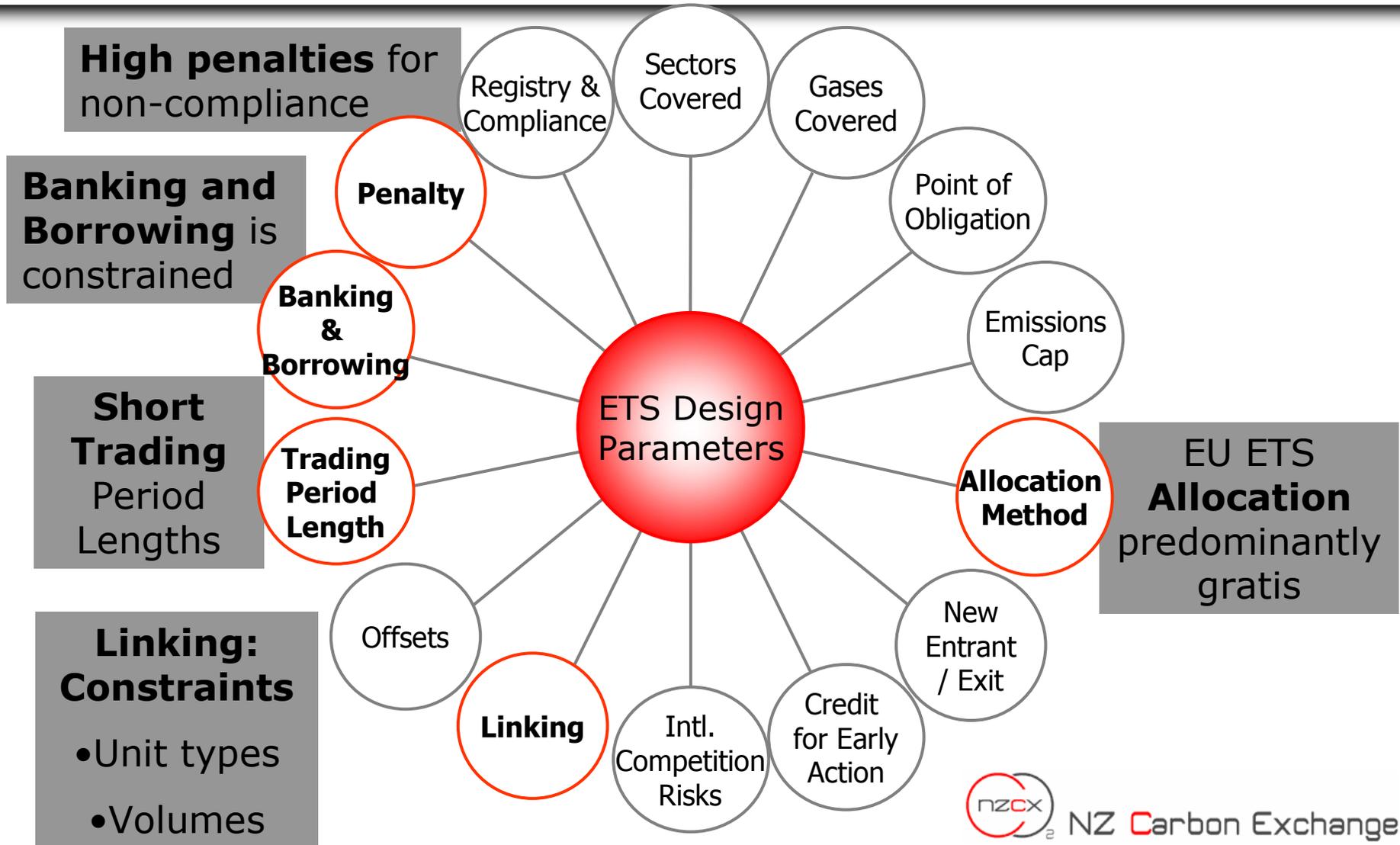
	2005		2006	
	Volume (MtCO <sub>2</sub> e)	Value (MUS\$)	Volume MtCO <sub>2</sub> e	Value MUS\$
<b>Allowances</b>				
EU ETS	321	7,908	1,101	24,357
New South Wales	6	59	20	225
Chicago Climate Exchange	1	3	10	38
UK-ETS	0	1	na	na
<b>Sub Total</b>	<b>328</b>	<b>7,971</b>	<b>1,131</b>	<b>24,620</b>
<b>Project-based transactions</b>				
Primary CDM	341	2,417	450	4,813
Secondary CDM	10	221	25	444
JT	11	68	16	141
Other compliance	20	187	17	79
<b>Sub total</b>	<b>382</b>	<b>2,894</b>	<b>508</b>	<b>5,477</b>
<b>Total</b>	<b>710</b>	<b>10,864</b>	<b>1,639</b>	<b>30,098</b>

EU ETS volume  
= 97% of  
allowance market  
= 67% of total  
market

Source: The World Bank  
(May 2007)

# Capacity to Trade

## ETS Parameter Influences



# Capacity to Trade? Pricing Uncertainty

## EUA 2007 & EUA 2008 Prices (€)



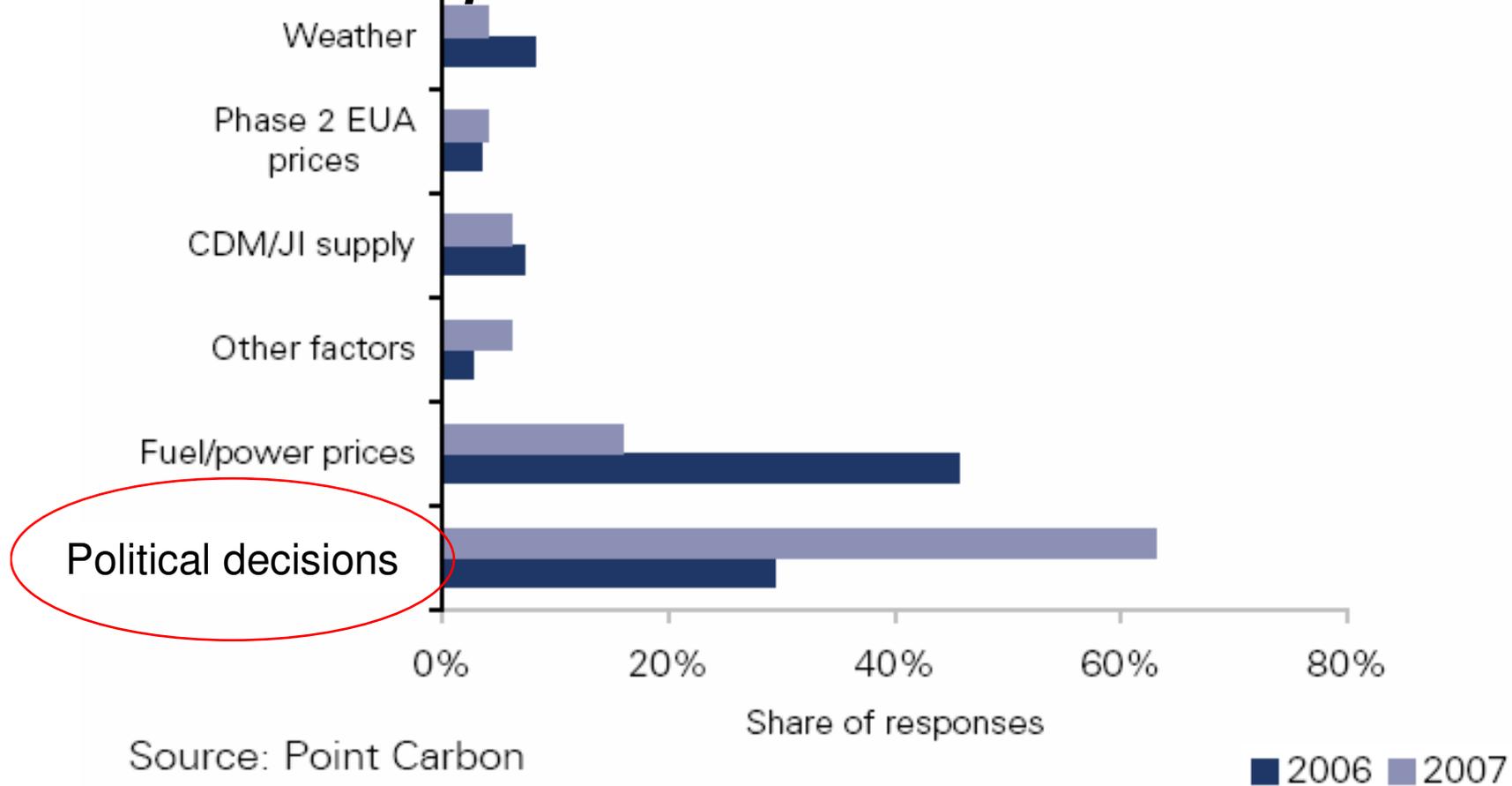
EUA 2007  
cannot be  
carried  
forward to  
Phase II  
2008-12

EUA 2007  
price  
collapse  
resulted

# Capacity to Trade?

## Political Influences

### *Short-Term price drivers in EU ETS*



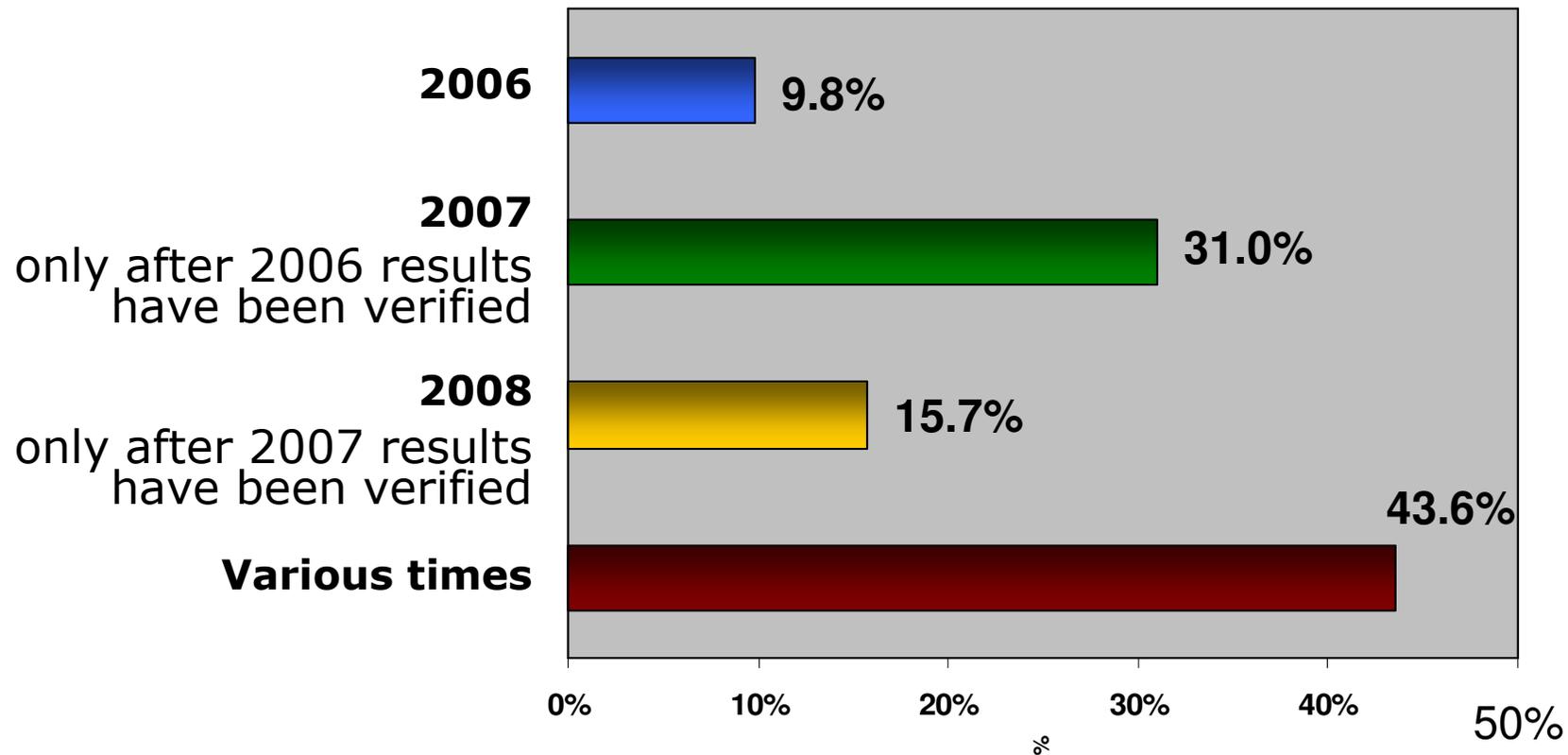
Source: Point Carbon

■ 2006 ■ 2007

# Capacity to Trade? EU ETS Survey

## *When will Phase 1 Surpluses be Sold?*

Number of responses (287)

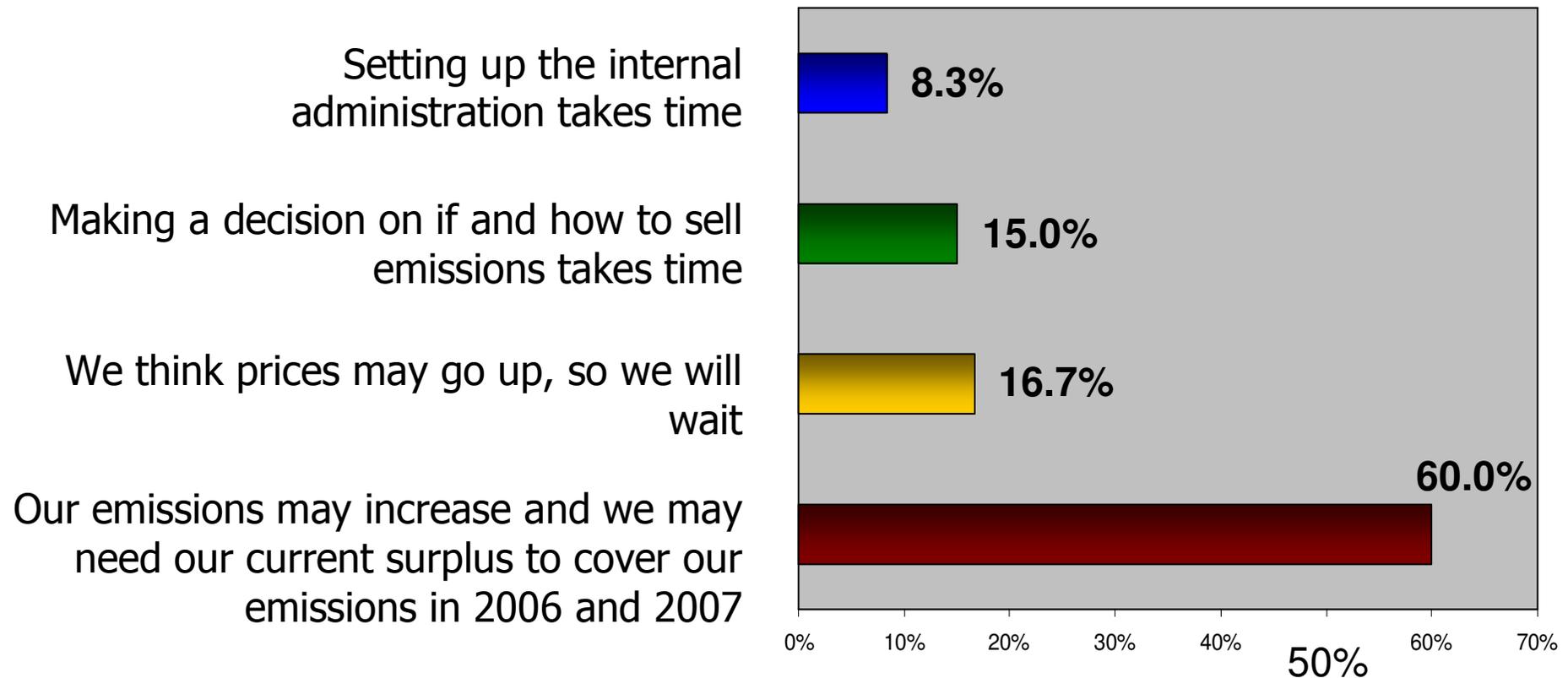


Source: New Carbon Finance,  
CantorCO2e

# Capacity to Trade? EU ETS Survey

## *Reasons for Delay in Selling Surpluses*

Number of responses (120)

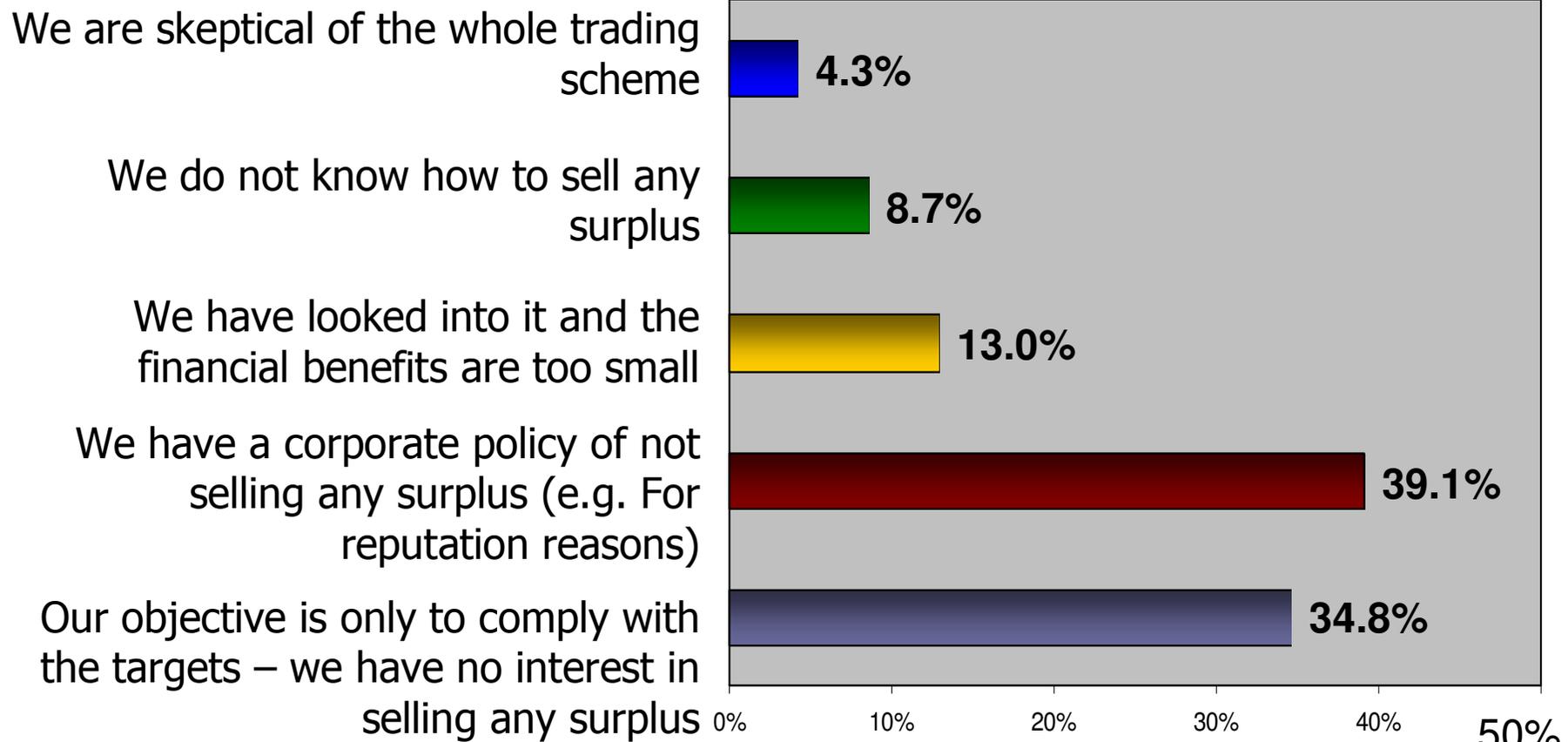


Source: New Carbon finance, CantorCO2e

# Capacity to Trade? EU ETS Survey

## *Reasons for Not Selling any Surpluses*

Number of responses (23)



# Capacity to Trade?

## New Zealand Considerations

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### Common to EU ETS

- Political Uncertainty
- Pace of implementation
- Design parameters
- Inventory data

### Additional Factors?

- "Non Traditional" GHG Trading Sectors
  - **Transport**
  - **Agriculture**
  - **Waste**
  - **Forestry**

# EU ETS trading and lessons for NZ

## What Issues are Direct Stakeholders Facing in Emission Markets?

- Access to transactions and vetting projects, buyers, sellers and intermediaries
- International networks; local experience / global network
- Understanding and evaluating project and financial risk
- EU ETS: 17,000 industrial installations – how many NZ companies?
- Additional to the 162 countries eligible for JI/ CDM

# EU ETS trading and lessons for NZ

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## Price Discovery:

- Multiple market mechanisms:
  - EU ETS
  - UK ETS
  - RGGI
  - NSW
  - CDM
  - JI
  - JVETS & Voluntary Carbon Offsetting...
  
- Multiple emission allowances:
  - Non-standardised contract structures

# Emission Units

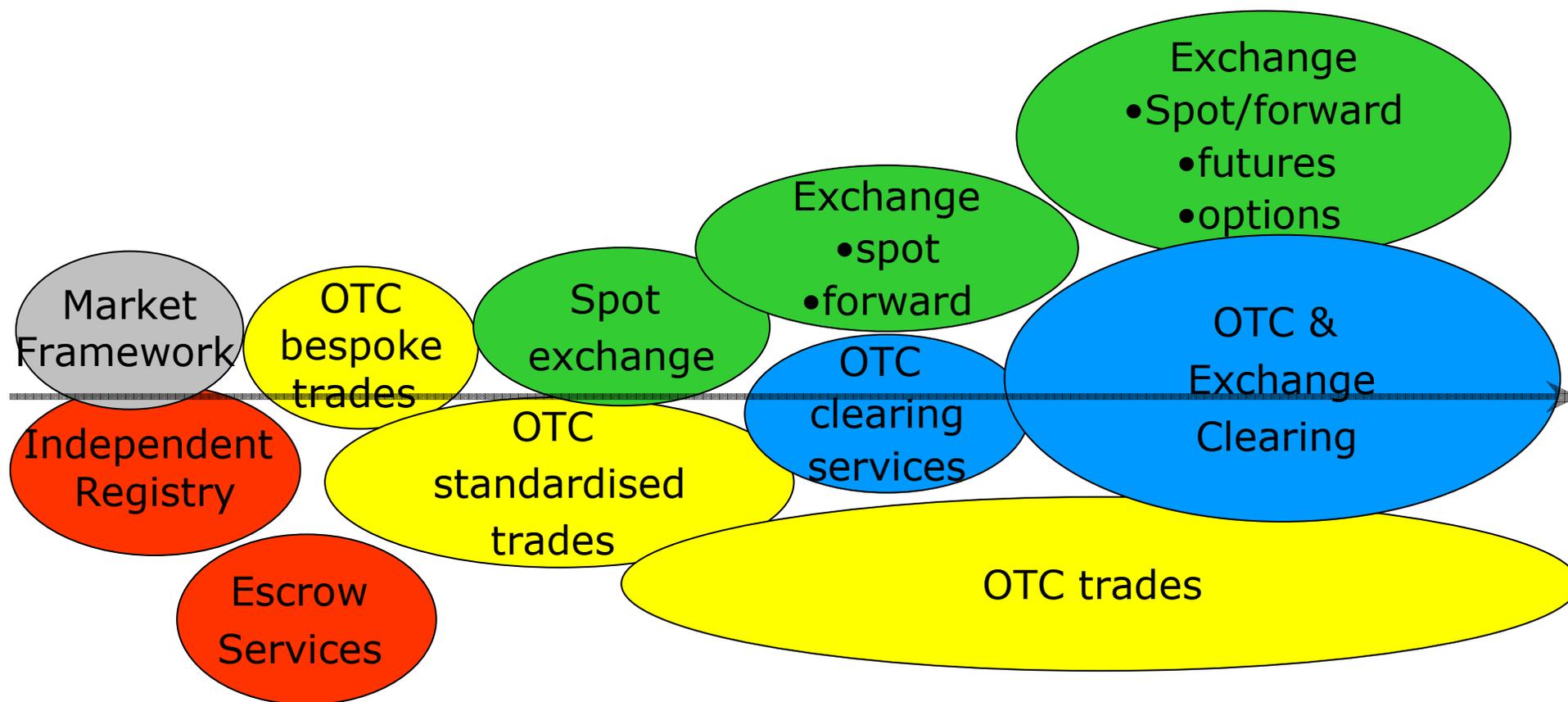
Unit Type	Regime				
	Kyoto	EU ETS Phase I	EU ETS Phase 2	CCX	NZ ETS
<b>Kyoto Units</b>					
<b>AAU</b>	X				?
<b>CER</b>	X	X	X		?
<b>ERU</b>	X		X		?
<b>* I-CER</b>	X				?
<b>* t-CER</b>	X				?
<b>* RMU</b>	X				?
<b>Regulatory</b>					
<b>EUA</b>		X	X		?
<b>NZA</b>			?		X
<b>Voluntary</b>					
<b>VER</b>				X	?

\* Kyoto  
Forestry  
Units



# Evolution of an Emissions Trading Market

## Market Development Stages



# EU ETS Instruments Traded

## Physical

- Spot transactions
- Physical forward transactions
  - EUAs
  - Kyoto
- Spreads (inter-periods)
- Spreads (clean)

## Financial

- Futures Transactions
- Options
- Exchange for Physicals (EfPs)
- Exchange for Swaps (EfSs)





- Hide Ticker
- Hide Last
- Hide Codes

# Emissions

NZCX Support Line 04 473 3126



Activity Ticker									
08:46:05 - Inserted: Lehman Brothers, Scott Thompson Ask for 25 MW of Clean Spread (25 Ktherms x 15 MW x 25 Tonnes) Q108 at 21.5									
08:44:40 - Inserted: Nomura, Richard Jackson Bid for 25 MW of Clean Spread (25 Ktherms x 15 MW x 25 Tonnes) Q108 at 21.0									
08:43:56 - Updated: Nomura, Richard Jackson Bid for 60,000 Tonne CO2 of EUA (Euro) Dec-08 at 27.00									
08:43:56 - Updated: Royal Bank of Scotland, Phil Braden Bid for 60,000 Tonne CO2 of EUA (Euro) Dec-07 at 23.50									

EUA (Euro) Spot					EUA ETS 2008					EUA ETS 2009					
UBS	50	19.50	20.00	40	CITI					RBS	60	23.50	24.00	60	CITI

Trader In View: UBS, Mike Armstrong



		NZETS						
		Code	Qty	Bid	Ask	Qty	Code	Last
+	Sep-07	UBS	25	25.0	25.5	25	CITI	
					26.0	25	BBH	
+	Oct-07	BNP	25	25.0	25.5	25	SANT	
+	Nov-07	CIBC	25	26.6	27.0	25	CSFB	
+	Dec-07				27.25	25	ABN	
+	Jan-08	CITI	25	27.25	27.28	25	RBS	
+	Feb-08	NOM	25	27.33	27.35	25	ML	
+	Q407	UBS	25	25.0	25.5	25	ML	
+	Q108		25	27.36	25.5	25	MAN	
+	Q208		25	27.76	26.25	25	UBS	
+	Q308		25	27.78	27.0	25	ML	
+	Q408		25	27.92	27.98	25		
+	Q109							
+	Q209							
+	Q309							
+	Win 07	LEH	40	26.75	26.99	25		
+	Sum 08		25	27.77	22.25	25	ABN	
+	Win 08	NOM	25	29.0	29.25	25	UBS	
+	Sum 09							

**UK Baseload Q109**

GlobalVision™

Bid  Ask    **28.25**

Company: RBS

Trader: Phil Braden

Quantity (MW): 25

Price Status: Firm

All or None

Expiry Type: Good Till Cancelled

Expiry Time: 00:10:00

Hidden Quantity

Hidden Quantity: 25

Hidden Qty Delta: 0.01

OK    Cancel

Sep-07
Oct-07
Nov-07
Dec-07
Jan-08
Feb-08
Q407
Q108
Q208
Q308
Q408
Q109
Q209
Q309
Win 07
Sum 08
Win 08
Sum 09



# Why CantorCO2e?

<u>Aug 10, 2007</u>	Dec 07	Dec 08	Dec 09	Dec 10	Dec 11	Dec 12		
EUA Prices (EU-ETS)	€0.10	€19.06	€19.49	€19.87	€20.27	€20.68		
CER Prices (CDM)	Dec 08	Dec 08 Prices	08-12 Strip	08-12 Prices				
	Bid Ask	Bid Ask	Bid Ask	Bid Ask				
<b>CantorCO2e</b>	84.00% 85.00%	€16.01 €16.20	78.00% 79.00%	€15.50 €15.70				
	Dec 08	Net Chg	Pct. Chg	Volume	Dec 09	Net Chg	Pct. Chg	Volume
<b>Nord Pool</b>	€16.20	-€0.10	-0.61%	0	€15.80	-€0.10	-0.63%	0
CCX Prices (USA)	2005	2006	2007	2008	2009	2010	2011	2012
<b>Aug 9</b>	\$3.60	\$3.60	\$3.65	\$3.65	\$3.65	\$3.65		

Source: Reuters Display

# Price Drivers – Supply and Demand

## ... or in the hand of the regulator?

### Domestic Design

- Sectors/Allocation methodology
- NZ generation profile (reduced fuel switching impact)
- Potential limitations on international linking tied back to domestic reductions
- Divest obligations

### International Linking

- International NAPS (Canada/Russia/Ukraine)
- Fungibility
- International Price Taker
- Transaction costs of secondary CERs compared with CDM projects
- Credit/delivery risk



NZ Carbon Exchange

For further information, please contact us:

**Stuart Frazer**

**Wellington**

L1, 108 The Terrace

PO Box 10-310

Wellington 6143

**Murray Dyer, Karen Price**

**Auckland**

11 Bacons Lane

Chancery Square

Auckland Central 1143

**t: 04 473 3126**

**f: 04 499 7181**

**[info@nzcX.com](mailto:info@nzcX.com)**

**[www.nzcX.com](http://www.nzcX.com)**